

ABSTRACT

A method for automatically generating test cases from a domain specific description language specification makes use of the properties of the language to derive domain specific axioms and language specific predicates. These properties are embedded into an extended finite state machine which is in turn supplied to the input of a test case generator. The enhanced extended finite state machine, referred herein as an extended finite state machine accounting for axioms and predicates (EFSMAP) contains states and transitions associated with information on implied behavior of the specified system within a particular problem domain. The implicit behavior, defined by the axiomatic properties of the operators of the domain specific language, provide test capability of the associated system that was not explicitly set forth in the formal specification, but nevertheless should be tested to increase confidence in the reliability of the finished product.